



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/569,236

02/22/2006

Alexandros Tourapis

PU030258

7832

24498 7590 12/22/2010

Robert D. Shedd, Patent Operations
THOMSON Licensing LLC
P.O. Box 5312
Princeton, NJ 08543-5312

EXAMINER

BAYARD, EMMANUEL

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

12/22/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/569,236	Applicant(s) TOURAPIS ET AL.	
	Examiner Emmanuel Bayard	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 11, 12, 19-21, 23, 24 and 26 is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-18, 25 and 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is in response to amendment filed on 10/27/10 in which claims are 1-21, and 23-32 pending. The applicant's amendments have been fully considered but they are moot based on the new ground of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10, 13-18 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozcelik et al U.S. Patent No 5,574663 in view of Banerji et al U.S. Pub No 20050008240.

As per claims 1, 13 and 29 Ozcelik et al teaches in a video encoder, a method for video encoding a block comprising (see abstract): combining (see fig.1 element 154]) a first spatial prediction of a current block (see fig.1 element 118) with a second temporal prediction of a current block (see fig.1 element 120 and col.3, lines 8-10)

However Ozcelik fails wherein the first spatial prediction of the current block is intra prediction and the second temporal prediction of the current block is inter prediction.

Banerji et al teaches teach wherein the combine **intra-prediction** to exploit **spatial statistical and inter- prediction** to exploit **temporal statistical** and which is functional equivalent to the first spatial prediction of the current block is intra prediction

Art Unit: 2611

and the second temporal prediction of the current block is inter prediction (see paragraph [0009] [0235]).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Banerji into Ozcelik as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 2, Ozcelik and Banerji in combination would teach wherein encoding the block includes combining the first prediction and the second prediction and a third prediction of the current block as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 3, Ozcelik and Banerji in combination would teach, wherein the current block is coded as a Direct mode block as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 4, Ozcelik and Banerji in combination would teach further comprising reducing the filter strength of a deblocking filter adapted to increase the correlation between pixels adjacent to the current block as to reduce blocking artifacts leading to poor picture quality and inaccurate prediction as taught by Banerji (see abstract and paragraph [0021]).

As per claim 5, Ozcelik and Banerji in combination would teach wherein the second prediction is a null block 0 prediction as to generate stitched reconstructed

Art Unit: 2611

block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 6, Ozcelik and Banerji in combination would teach wherein the first prediction and the second prediction are combined by averaging the first prediction and the second prediction as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claims 7, 14, 24 and 32 Ozcelik and Banerji in combination would teach, wherein the first prediction and the second prediction are combined by weighting each of the first prediction and the second prediction as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 8, Ozcelik and Banerji in combination would teach wherein the current block is a 16 x 16 30 macro block as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 9, Ozcelik and Banerji in combination would teach, wherein the current block is a sub-macro block as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 10, Ozcelik and Banerji in combination would teach wherein the current block is a 4 x 4 sub-macro block partition as to generate stitched reconstructed

Art Unit: 2611

block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claims 14-15, Ozcelik and Banerji in combination would teach wherein the combining unit is adapted to average together the first intra prediction of the block and the first inter prediction of the block as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 16, Ozcelik and Banerji in combination would teach wherein the hybrid intra-inter coded block is the average of the first intra prediction and the first inter prediction as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 17, Ozcelik and Banerji in combination would teach, wherein the intra-frame prediction block is adapted to output a second intra prediction of the block; and wherein the combining unit is further adapted to additively combine the first intra prediction and the second intra prediction as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 18, Ozcelik and Banerji in combination would teach, wherein the inter-frame prediction block is further adapted to output a Second inter prediction of the block; and wherein the combining unit is further adapted to combine the first inter prediction and the second inter prediction as to generate stitched reconstructed block in

Art Unit: 2611

the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 25, Ozcelik and Banerji in combination would teach a mobile telephone comprising a video encoder as claimed in claim 13 as to produce an out out bitstream which compliant with the particular standard as taught by Banerji (see abstract and paragraph [00011]).

As per claim 27, Ozcelik and Banerji in combination would teach a computer-usable medium having a computer-readable program Code embodied therein for causing a computer system (see paragraph [0002]) to perform the method of claim as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 28, Ozcelik and Banerji in combination would teach a recording medium that stores a program, readable by a computer (see paragraph [0002]), for causing a computer system to perform the method of claim 1 as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 30, Ozcelik and Banerji in combination would teach wherein the step of combining is accomplished using a summing block as to calculate an absolute differential sum of both predicted images A and B as to generate stitched reconstructed

Art Unit: 2611

block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

As per claim 31, Ozcelik and Banerji in combination would teach wherein the step of combining the two prediction types is accomplished by performing a simple average of the two prediction types as to generate stitched reconstructed block in the next frame of the sequence and also describe an exact process for decoding the video as taught by Banerji (see abstract and paragraph [0009]).

Allowable Subject Matter

3. Claims 11-12, 19-21, 23-24 and 26 are allowed over the prior art of record.
4. The following is an examiner's statement of reasons for allowance: Wherein the encoder is further adapted to select for encoding one of the selected blocks, between an intra encoding mode of the related art, an inter encoding mode of the related art, and a bi-predictive hybrid intra-inter encoding mode.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

Art Unit: 2611

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571 272 3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12/20/2010

Emmanuel Bayard
Primary Examiner
Art Unit 2611

/Emmanuel Bayard/
Primary Examiner, Art Unit 2611